

STEP #1

**1. Go to** [**http://marvel.com/universe/Category:Heroes**](http://marvel.com/universe/Category:Heroes)

**\*\*Click on your character bios and write a list of their physical traits and superhero abilities. Please choose 4 physical and 5 super traits for each character. The traits can be different for each superhero, but do note any traits that they have in common.**

**STEP 2:**

**Make a data table to show the traits for each parent.**

**PHYSICAL TRAITS**

|  |  |  |
| --- | --- | --- |
|  | **Male** | **Female** |
| **Name** |  | **Example: Arachne** |
| **Trait #1** |  | **Blond hair** |
| **Trait #2** |  |  |
| **Etc** |  |  |
| **etc** |  |  |

**SUPER TRAITS**

|  |  |  |
| --- | --- | --- |
|  | **Male** | **Female** |
| **Name** |  | **Arachne** |
|  |  | **Shoots webs** |

**STEP THREE-**

**Using a data table, begin by flipping coins you will create a chart of your superhero’s actual combination of alleles, or genotype as well as the phenotype. *You must assume that a superhero trait is dominant.* For example, Arachne’s genotype for shooting webs is (W?) and her phenotype is shooting webs.**

**Example- The incredible Hulk is super strong.**

**Super strength is dominant.**

**Use a capital S for strength. Flip for the second allele.**

**To determine if the hulk is homozygous or heterozygous for this trait you need to flip two coins at the same time.**

[](http://images.google.com/imgres?imgurl=http://mysticmountainmagic.hypermart.net/Ebay_Scans/2_Sided_Penny_Heads_a.jpg&imgrefurl=http://mysticmountainmagic.hypermart.net/CoinMagic/Double_Sided_Coins.htm&usg=__8Y1RXiBYXEcM5JsQrDcZHEWhG40=&h=433&w=433&sz=59&hl=en&start=19&um=1&itbs=1&tbnid=D5VZZawo2fUiLM:&tbnh=126&tbnw=126&prev=/images?q=pennies+heads+up&start=18&um=1&hl=en&safe=active&sa=N&ndsp=18&tbs=isch:1)[](http://images.google.com/imgres?imgurl=http://mysticmountainmagic.hypermart.net/Ebay_Scans/2_sided_penny_tails_gallery_a.jpg&imgrefurl=http://cgi.ebay.com/Double-sided-PENNY-TAILS-two-2-TAILED-magic-trick-coin-/310162748432&usg=__-5uFLb_By6Dl4MFRJ7_m8B5Ezes=&h=433&w=433&sz=57&hl=en&start=3&um=1&itbs=1&tbnid=h640jcCBwWqzyM:&tbnh=126&tbnw=126&prev=/images?q=pennies+heads+tails&um=1&hl=en&safe=active&tbs=isch:1)**=SS**

**If you get a heads up then he is homozygous.**

[](http://images.google.com/imgres?imgurl=http://www.magicalrabbit.com/ebay/Double_sided_Heads_and_Tails_Penny_set_gallery.jpg&imgrefurl=http://cgi.ebay.com/Double-sided-PENNY-TAILS-two-2-TAILED-magic-trick-coin-/310162748432&usg=__eij7qZTBOpsxjB6sK3PRY9NQpv0=&h=400&w=400&sz=32&hl=en&start=1&um=1&itbs=1&tbnid=UXB1ubVQbn7-5M:&tbnh=124&tbnw=124&prev=/images?q=heads+and+tails+pennies&um=1&hl=en&safe=active&sa=N&tbs=isch:1)**=Ss**

**If you get a tail he is heterozygous.**

**PLEASE COMPLETE A DATA TABLE.**

**FATHER: Hulk**

**Then make a data table for Mother.**

|  |  |  |
| --- | --- | --- |
| Male character | Genotype | Phenotype |
| Example /Hulk | S(flip for second) | Strong |
| Trait 1 |  |  |
| Trait 2 |  |  |
| Trait 3 |  |  |
| Trait 4 |  |  |
| Trait 5 |  |  |
| Trait 6 |  |  |

**Remember- You choose the letters you want to represent the alleles. For example, if your hero has x-ray vision, you might use XX if they are homozygous or Xx if they are heterozygous.**

**STEP 4**

**PUNNET SQUARES-**

**Now its time for the hero’s to have kids.**

**To do this you are going to have to create a Punnett square for every single trait that you have listed for your hero’s. If your hero’s have traits that overlap you only need to do one Punnett square. If one hero has a trait that the other does not then you should assume that the hero that does not have the trait has two recessive alleles.**

**EXAMPLE: HULK AND WONDER WOMAN – TRAIT: STRENGTH**

**s s**

|  |  |
| --- | --- |
| **1** | **2** |
| **3** | **4** |

**Roll a die to determine the genotype of the offspring. Roll only using the 1-4 on the die.**

**STEP 5:**

**Flip a coin to see if your offspring is male (heads) or female (tails). Then use the data and fill out the following table.**

|  |  |  |  |
| --- | --- | --- | --- |
| Offspring | Trait Name | Genotype | Phenotype |
| Physical Traits |  |  |  |
| Trait 1 | Example: Strength | Ss | Super strong |
| Trait 2 |  |  |  |
| Trait 3 |  |  |  |
| Trait 4 |  |  |  |
|  |  |  |  |
| Super Traits |  |  |  |
| Trait 1 |  |  |  |
| Trait 2 |  |  |  |
| Trait 3 |  |  |  |
| Trait 4 |  |  |  |
| Trait 5 |  |  |  |
|  | Gender | XX or XY | Female or Male |

STEP 6

Name and make a drawing of your new super hero baby.

STEP 7

Now you will present your Super Baby to the Marvel Comic Book Editors. You want them to pick your character for a new book. You need to analyze their super traits and physical traits as a possible new Super Hero.

How can they contribute to saving the world?

How can they save people from the villains?

STEP 8

Answer these questions according to the rubric.

What kind of Super Traits did your super baby inherit from their mom?

What kind of Super Traits did your super baby inherit from their dad?

Why did your super baby gain or lose super traits compared to their parents?

How do you explain that there is always a 50-50 chance of having a boy or girl?

With the Super Baby’s traits how can they save the world and get rid of the villains?